

8	992	98.5	591	3	US-09-746-485A-7	GENERAL INFORMA
9	992	98.5	591	3	US-10-126-139-7	GENERAL INFORMA
10	992	98.5	591	3	US-10-126-798-7	GENERAL INFORMA
11	992	98.5	591	3	US-10-126-777-7	GENERAL INFORMA
12	992	98.5	596	3	US-09-863-901-41	Sequence 41, Appl
13	992	98.5	596	3	US-10-307-389-41	Sequence 41, Appl
14	992	98.5	599	3	US-09-277-716-7	Sequence 7, Appli
15	992	98.5	958	2	US-08-757-046A-5	Sequence 5, Appli
16	992	98.5	958	3	US-09-447-208-5	Sequence 5, Appli
17	992	98.5	958	3	US-09-135-988-5	Sequence 5, Appli
18	992	98.5	958	3	US-09-277-716-5	Sequence 5, Appli
19	992	98.5	958	3	US-08-597-274A-5	Sequence 5, Appli
20	992	98.5	958	3	US-08-908-909-5	Sequence 5, Appli
21	992	98.5	958	3	US-09-609-161B-5	Sequence 5, Appli
22	992	98.5	958	3	US-08-990-103-5	Sequence 5, Appli
23	992	98.5	958	3	US-09-746-485A-5	Sequence 5, Appli
24	992	98.5	958	3	US-10-126-139-5	Sequence 5, Appli
25	992	98.5	958	3	US-10-126-798-5	Sequence 5, Appli
26	992	98.5	958	3	US-10-126-777-5	Sequence 5, Appli
27	992	98.5	1350	3	US-09-863-901-9	Sequence 9, Appli
28	992	98.5	1350	3	US-10-307-389-9	Sequence 9, Appli
29	992	98.5	1404	3	US-09-863-901-10	Sequence 10, Appl
30	992	98.5	1404	3	US-10-307-389-10	Sequence 10, Appl
31	992	98.5	1431	3	US-09-863-901-11	Sequence 11, Appl
32	992	98.5	1431	3	US-10-307-389-11	Sequence 11, Appl
33	992	98.5	2673	3	US-09-863-901-8	Sequence 8, Appli
34	992	98.5	2673	3	US-10-307-389-8	Sequence 8, Appli
35	992	98.5	2718	3	US-09-863-901-12	Sequence 12, Appl
36	992	98.5	2718	3	US-10-307-389-12	Sequence 12, Appl
37	992	98.5	3973	3	US-09-863-901-7	Sequence 7, Appli
38	992	98.5	3973	3	US-10-307-389-7	Sequence 7, Appli
39	992	98.5	4886	3	US-09-533-220A-4	Sequence 4, Appli
40	992	98.5	4886	3	US-10-128-853-4	Sequence 4, Appli
41	976	96.9	591	2	US-08-757-046A-8	Sequence 8, Appli
42	976	96.9	591	3	US-09-447-208-8	Sequence 8, Appli
43	976	96.9	591	3	US-09-135-988-8	Sequence 8, Appli
44	976	96.9	591	3	US-08-597-274A-8	Sequence 8, Appli
45	976	96.9	591	3	US-08-908-909-8	Sequence 8, Appli

## ALIGNMENTS

## RESULT 1

US-08-757-046A-7

; Sequence 7, Application US/08757046A

; Patent No. 5876995

; GENERAL INFORMATION:

; APPLICANT: Bryan, Bruce

; TITLE OF INVENTION: BIOLUMINESCENT ARTICLES OF MANUFACTURE

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Brown, Martin, Haller &amp; McClain

; STREET: 1660 Union Street

; CITY: San Diego

; STATE: CA

; COUNTRY: USA

; ZIP: 92101-2926

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Diskette

; COMPUTER: IBM Compatible

; OPERATING SYSTEM: DOS

; SOFTWARE: FastSEQ Version 1.5

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/757,046A

; FILING DATE: 11-25-96

; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 08/597,274

; FILING DATE: 02-06-96

; ATTORNEY/AGENT INFORMATION:

; NAME: Seidman, Stephanie L

; REGISTRATION NUMBER: 33,779

; REFERENCE/DOCKET NUMBER: 6680-105B

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 619-238-0999

; TELEFAX: 619-238-0062

; TELEX:

; INFORMATION FOR SEQ ID NO: 7:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 591 base pairs

; TYPE: nucleic acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: cDNA

; HYPOTHETICAL: NO

; ANTI-SENSE: NO

; FRAGMENT TYPE:

; ORIGINAL SOURCE:

; FEATURE:

; NAME/KEY: Coding Sequence

; LOCATION: 1...588

```

; OTHER INFORMATION: Recombinant Aequorin AEQ2
; PUBLICATION INFORMATION:
; AUTHORS: Prasher et al.
; TITLE: Sequence Comparisons of Complementary
; Patent No. 5876995
; TITLE: DNAs Encoding Aequorin Isotypes
; JOURNAL: Biochemistry
; VOLUME: 26
; PAGES: 1326-1332
; DATE: 1987
US-08-757-046A-7

```

```

Alignment Scores:
Pred. No.:      2.86e-110      Length:      591
Score:          992.00        Matches:     185
Percent Similarity: 98.4%      Conservative: 1
Best Local Similarity: 97.9%    Mismatches:   3
Query Match:    98.5%         Indels:       0
DB:             2             Gaps:          0

```

US-10-811-138-4-X-AT-82 (1-189) x US-08-757-046A-7 (1-591)

```

Qy      1 ValLysLeuThrSerAspPheAspAsnProArgTrpIleGlyArgHisLysHisMetPhe 20
      |||
Db      22 GTCAAGCTTACATCAGACTTCGACAACCCAAGATGGATTGGACGACACAAGCATATGTTTC 81

Qy      21 AsnPheLeuAspValAsnHisAsnGlyLysIleSerLeuAspGluMetValTyrLysAla 40
      |||
Db      82 AATTTCTTGATGTGCAACCAATGGAAAAATCTCTCTTGACGAGATGGTCTACAAGGCA 141

Qy      41 SerAspIleValIleAsnAsnLeuGlyAlaThrProGluGlnAlaLysArgHisLysAsp 60
      |||
Db      142 TCTGATATTGTCTACATAACCTTGGAGCAACACCTGAGCAAGCCAAACGACACAAGAT 201

Qy      61 AlaValGluAlaPhePheGlyGlyAlaGlyMetLysTyrGlyValGluThrAspTrpPro 80
      |||
Db      202 GCTGTAGAAGCCTTCTTCGGAGGAGCTGGAATGAAATATGGTGTGGAAACTGATTGGCCT 261

Qy      81 Ala***IleGluGlyTrpLysLysLeuAlaThrAspGluLeuGluLysTyrAlaLysAsn 100
      |||:::
Db      262 GCATATATTGAGGATGGAAAAAATTGGCTACTGATGAATTGGAGAAATACGCCAAAAAC 321

Qy      101 GluProThrLeuIleArgIleTrpGlyAspAlaLeuPheAspIleValAspLysAspGln 120
      |||
Db      322 GAACCAACGCTCATCCGTATATGGGGTGATGCTTTGTTTCGATATCGTTGACAAAGATCAA 381

Qy      121 AsnGlyAlaIleThrLeuAspGluTrpLysAlaTyrThrLysAlaAlaGlyIleIleGln 140
      |||
Db      382 AATGGAGCCATTACACTGGATGAATGGAAAGCATACACCAAGCTGCTGGTATCATCCAA 441

Qy      141 SerSerGluAspSerGluGluThrPheArgValSerAspIleAspGluSerGlyGlnLeu 160
      |||
Db      442 TCATCAGAAGATTGCGAGGAACATTAGAGTGTCGATATTGATGAAAGTGGACAACCTC 501

Qy      161 AspValAspGluMetThrArgGlnHisLeuGlyPheTrpTyrThrMetAspProAlaSer 180
      |||
Db      502 GATGTTGATGAGATGACAAGACAACATTTAGGATTTTGGTACACCATGGATCCTGCTTGC 561

Qy      181 GluLysLeuTyrGlyGlyAlaValPro 189
      |||
Db      562 GAAAAGCTCTACGGTGGAGCTGTCCGC 588

```

```

RESULT 2
US-09-447-208-7
; Sequence 7, Application US/09447208
; Patent No. 6113886
; GENERAL INFORMATION:
; APPLICANT: Bryan, Bruce
; TITLE OF INVENTION: BIOLUMINESCENT ARTICLES OF MANUFACTURE
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Heller Ehrman White & McAuliffe
; STREET: 4250 Executive Square, 7th Floor
; CITY: La Jolla
; STATE: CA
; COUNTRY: USA
; ZIP: 92037
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/447,208
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 0909/135,988
; FILING DATE: 08-17-98
; CLASSIFICATION:
; PRIOR APPLICATION DATA:

```

10/811,138

W - ~~RG~~6  
F - TTC, TTT  
Y  
tat →

<212> DNA  
<213> Aequorea victoria

<400> 3  
aatgcaattc atctttgcat caaagaatta catcaaactc ctagttgatc aactaaattg 60  
tctcgacaac aacaagcaaa [catgacaagc aaacaatact cagtcaagct tacatcagac 120  
ttcgacaacc caagatggat tggacgacac aagcatatgt tcaatttcct tgatgtcaac 180  
cacaatggaa aaatctctct tgacgagatg gtctacaagg catctgatat tgtcatcaat 240  
aaccttgag caacacctga gcaagccaaa cgacacaaaag atgctgtaga agccttcttc 300  
ggaggagctg gaatgaaata tgggtgtggaa actgattggc ctgcataat tgaaggatgg 360  
aaaaaattgg ctactgatga attggagaaa tacgccaaaa acgaaccaac gctcatccgt 420  
atatggggtg atgctttgtt tgatatcgtt gacaaagatc aaaatggagc cattacactg 480  
gatgaatgga aagcatacac caaagctgct ggtatcatcc aatcatcaga agatagcgag 540  
gaaacattca gagtgaagca tattgatgaa agtggacaac tcgatgttga tgagatgaca 600  
agacaacatt taggattttg gtacaccatg gatcctgcta gcgaaaagct ctacgggtgga 660  
gctgtccctt [aagaagctct acggtggtga tgcaccctgg gaagatgatg tgattttgaa 720  
taaaacactg atgaattcaa tcaaaatttt ccaaattttt gaacgatttc aatcgtttgt 780  
gttgattttt gtaattagga acagattaaa tcgaatgatt agttgttttt ttaatcaaca 840  
gaacttacaa atcgaaaaag t 861

346  
+ 82  
268  
2 7

346-348

<210> 4  
<211> 189  
<212> PRT  
<213> Aequorea victoria

<400> 4  
Val Lys Leu Thr Ser Asp Phe Asp Asn Pro Arg Trp Ile Gly Arg His  
1 5 10 15  
Lys His Met Phe Asn Phe Leu Asp Val Asn His Asn Gly Lys Ile Ser  
20 25 30  
Leu Asp Glu Met Val Tyr Lys Ala Ser Asp Ile Val Ile Asn Asn Leu  
35 40 45  
Gly Ala Thr Pro Glu Gln Ala Lys Arg His Lys Asp Ala Val Glu Ala  
50 55 60

189  
3  
567 nt

569 = 99.5%  
567

27, 28  
1, 73, 74

Seq id n:3 differs by 2-4 nt from prior art

Phe Phe Gly Gly Ala Gly Met Lys Tyr Gly Val Glu Thr Asp Trp Pro  
65 70 75 80

Ala Tyr Ile Glu Gly Trp Lys Lys Leu Ala Thr Asp Glu Leu Glu Lys  
85 90 95

Tyr Ala Lys Asn Glu Pro Thr Leu Ile Arg Ile Trp Gly Asp Ala Leu  
100 105 110

Phe Asp Ile Val Asp Lys Asp Gln Asn Gly Ala Ile Thr Leu Asp Glu  
115 120 125

Trp Lys Ala Tyr Thr Lys Ala Ala Gly Ile Ile Gln Ser Ser Glu Asp  
130 135 140

Ser Glu Glu Thr Phe Arg Val Ser Asp Ile Asp Glu Ser Gly Gln Leu  
145 150 155 160

Asp Val Asp Glu Met Thr Arg Gln His Leu Gly Phe Trp Tyr Thr Met  
165 170 175

Asp Pro Ala Ser Glu Lys Leu Tyr Gly Gly Ala Val Pro  
180 185

<210> 5  
<211> 662  
<212> DNA  
<213> Obelia longissima

<400> 5  
acgatcgaac caaacaactc agctcacagc tactgaacaa ctcttggtgt gtacaatcaa 60  
aatgtcttca aaatacgcag ttaaactcaa gactgacttt gataatccac gatggatcaa 120  
aagacacaaag cacatgtttg atttcctcga catcaatgga aatggaaaaa tcaccctcga 180  
tgaaattgtg tccaaggcat ctgatgacat atgtgccaaag ctggaagcca caccagaaca 240  
aacaaaacgc catcaagttt gtgttgaagc tttctttaga ggatgtggaa tggaatatgg 300  
taaagaaatt gccttccac aattcctcga tggatggaaa caattggcga cttcagaact 360  
caagaaatgg gcaagaaacg aacctactct cattcgtgaa tggggagatg ctgtctttga 420  
tattttcgac aaagatggaa gtggtacaat cactttggac gaatggaaag cttatggaaa 480  
aatctctggt atctctccat cacaagaaga ttgtgaagcg acatttcgac attgcgattt 540

W	TGG
Y	TAT
F	TTT or TTC

Ser - AGC  
Cys - TGC

189  
562